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## CENTRAL INTELLIGENCE AGENCY

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SECURITY INFORMATION

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INFORMATION REPORT  
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REPORT

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COUNTRY East Germany

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SUBJECT Production Difficulties at Eisenhuettenkombinat  
West, Calbe/Saale

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## A. Furnaces

## 1. Furnace I, experimental type.

- a. This furnace, which uses coal coke, produces a low grade pig iron suitable only for processing by iron works. The ore comes from Schmiedefeld, Saalfeld, with an average iron content of 35%, manganese content of .3 to .4%, phosphorous content of about .5%, and a little sulphur. In February it was estimated that the optimum output of pig iron would reach 180 to 210 tons.
- b. This furnace was to operate only until the completion of furnace III. It would then be rebuilt and modified as experience indicated. In any case, there will be no more coal coke available for Calbe once EKO, Fuarstenberg, comes into full production.
- c. Some of the difficulties experienced with this furnace in the first months of 1952 are summarized as follows:

On 12 January, it was discovered that the interior casing had sunk some 60 cm. at a point about 3 m. above the tap hole. The masonry had burnt through and the jacket was bulging. The reason for this was the use of Czechoslovakian fire clay type A.U.I. which can stand temperatures up to 2000 °C. The masonry had to be renewed.

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At the end of January, cracks appeared in the foundation. This was because the bottom of the furnace was not bricked and too much heat radiated through it.

On 17 February, the furnace was blown in again and an output of approximately 40 to 45 tons a day was achieved.

On 16 March, the furnace again stopped, since the 8 slide valves (Gichtschieber) had melted from the intense heat. These had to be replaced by others made of fire clay set in an iron frame. The furnace was in operation again at the end of March but on 4 April it was again stopped for an unknown reason.

## 2. Furnace II

a. Compared with furnace I, this furnace has five tuyères on each of its broad sides and one on each narrow side (as against seven tuyères on each of the broad sides of No. I); It has, however, like furnace No. I, eight dampers (Gichtklappen) and eight side valves (Gichtschieber). The furnace burns lignite low-temperature coke and coke produced from lignite fine grain briquettes, the results of which have been unsatisfactory because of the accumulation of slag containing sand and a high degree of sulphur. This furnace was accepted by the Ministry of Heavy Industry's representative on 10 January and was estimated to be able to produce some 53 tons of pig iron per day although it was hoped that it could produce up to 65 tons.

b. On 15 January, it was heated to about 350° with briquettes. As its own two cowpers (III and IV) were not ready, this furnace was connected up with the cowpers belonging to furnace I. It commenced production on 20 January and the first iron flowed satisfactorily on the 25th. Thereafter the difficulties were the following:

On 7 February, there was a stoppage for one day as the gas pipe had to be cleaned.

On 9 February, because of a faulty adjustment of the water cooling tubes, all the tuyères melted and fresh tuyères had to be supplied from Chemnitz. The furnace was started up again on 11 February.

On 12 February, seven of the tuyères melted again because of a stoppage of the water cooling system. The central pumping station was not yet ready and the temporary plant at Saale was unable to supply clean water. Production was resumed on 15 February.

On 16 March, the furnace had to be stopped for a further repair to the water system. It was restarted on 18 March.

On 29 March, the furnace was stopped in order to assemble two gas torches. Work was resumed the next day.

On 5 April, production ceased, as it had for furnace I. No reason was given.

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3. Furnace III

- a. On 3 February, it was decided to install the semi-finished jacket on this furnace on the foundations prepared for furnace IV. This furnace differs from I and II in that instead of the eight dampers, it has four cone stoppers (Gichtglocken) and no slide valves. A beginning was made on the masonry lining on 18 February and throat stoppers were installed on 8 March.
- b. Firing is to be with lignite fine coal briquettes, but in addition, furnace gas will be introduced under high pressure through four nozzles. By this, it is hoped to secure an inside temperature which will give an even melting and sinking of the charge.

4. Furnace IV

A start was made on the jacket on 10 March and on the foundations on 18 March.

5. Furnaces V, VI, and VII

A different principle was applied when building the foundations for these furnaces. No details are available of furnace V itself but furnaces VI and VII have an entirely new shape. The ground plan is oval and the furnaces will be pear-shaped in elevation. They each have fourteen tuyeres to ensure a new blast ratio in the furnace. Furnaces built after furnace VI are to have the same cone stoppers as furnace III.

B. Other installations at Eisenhuettenkombinat West, Calbe1. Theisen gas washer

A second Theisen gas washer was under construction and almost ready by the end of March 1952.

2. Cowpers

By mid March the foundations for cowpers V, VI, VII, and VIII were ready and cowpers V and VI were completed soon thereafter. Cowpers III and IV are oil-fired up to 5000°, after which they operate with gas heating.

3. Power station

Work on the site was begun in mid February. It was planned to set up initially a 100 kw station. The whole plant will not be ready before 1954.

4. Slag granulation plant

It is planned to erect a plant for the production of slag sand for use in cement manufacture. A new type of slag truck is being tested for this installation.

5. Cement factory

It is planned to erect a cement factory in this area.

C. General

1. The furnace charge for furnaces I and II amounts to 900 kg per load. The load is composed of 400 kg coke, 132 kg turnings, 24 kg cast iron scrap, 320 kg ore and limestone, and 24 kg manganese slag.

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2. Pump VI is worked by a 200 kw engine supplied by VEM Motorenwerk Wernigerode. There was a power failure on 5 April at which time it was discovered that the copper winding of the rotor and starter had burnt through. This has happened before with machinery provided by the above firm; in the future, aluminum windings will replace copper.
3. Forty special ore trucks have been ordered from the LÖWA Metallwerk Lockwitz, Dresden, and the LÖWA Waggonbau, Gotha. Each will cost DM 50,000.
4. It is planned to lay 52 km of standard railway track in the vicinity of the plant.
5. Three locomotives were delivered in March 1952, and three more were expected in the near future.

D. 1952 Expansion Program.

1. The following has been planned for the current year:
  - a. The erection of a central administrative building, a store, a power station and a substation, a blower house, meter houses, a laboratory, an intermediate pumping station for the second group of furnaces, and a polyclinic. The ore dressing station is to be expanded.
  - b. The planned erection of coke ovens and a briquette plant has been stopped as has also preparatory work for the erection of a tube rolling mill. This latter will now be constructed at the Stahl-und Walzwerk Brandenburg, VEB.
2. A sum of DM 57,000,000 is to be spent for construction work in 1952. There were also supplementary plans for a further expenditure of DM 27,000,000, but clearance for this had not arrived in April.

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